



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,004	10/14/2003	Xuefeng T. Tao	GP-304192	5851
7590	11/25/2005			
Leslie Hodges General Motors Corporation, Legal Staff Mail Code: 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			EXAMINER LOUIS JACQUES, JACQUES H	
			ART UNIT 3661	PAPER NUMBER
DATE MAILED: 11/25/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/686,004	Applicant(s) TAO ET AL.	
	Examiner Jacques H. Louis-Jacques	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

24

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuras et al [6,343,250] in view of Nawa et al [5,060,176].

Kuras et al discloses a method and apparatus for smoothing the output of a hydrostatic transmission near zero speed. The method and apparatus, according to Kuras et al, determine the speed of a transmission member in a hybrid powertrain, which includes a hybrid transmission (e.g., 16) having at least one motor (e.g., 52) operatively coupled to the transmission member and at least one rotation sensor (e.g., 76, 80) for operatively sensing rotation of said preselected transmission member. See figure 1. According to Kuras et al, there is provided providing a first signal indicative of the speed of the transmission member calculated from the output from the at least one rotation sensor and providing a second signal indicative of the speed of the transmission member calculated from the speed of the at least one motor and an effective rotation ratio between the transmission member and the at least one motor. See column 5, lines 49-67 and column 6, lines 1-11. According to Kuras et al, the transmission member comprises an output member (column 5, lines 62-64) and the speed of the at least one motor is provided by a motor controller (column 6, lines 25-31). In addition, Kuras et al discloses conditions

indicating that the first signal is unreliable based on the speed of the transmission member below a predetermined threshold and a loss of sensor output (column 7). Kuras et al discloses that either of the transmission speeds can be used as the transmission speed (column 5, lines 65-67). One of ordinary skill in the art would be motivated to select one of the transmission speeds in order to eliminate a discontinuity in the speed of the transmission and thereby control thereby the transmission speed. However, Kuras et al discloses a hydraulic motor as opposed to an electric motor. Nawa et al, on the other hand, discloses an electric motor powered testing apparatus for automotive power transmission using of an electric motor instead of a hydraulic motor. According to Nawa et al, there is provided a power source unit employing a motor, such as electric motor, hydraulic motor and so forth. See column 1. Also according to Nawa et al, there is provided a sensor for monitoring revolution speed at the input of the transmission, such as a revolution speed sensor. The revolution speed sensor monitors revolution speed at the input of the transmission to produce a sensor signal representative of the revolution speed at the input side of the transmission. See column 4, lines 23-25. Nawa et al also monitors a speed of the output shaft of the transmission. The transmission testing apparatus, according to Nawa et al comprises an electric motor and a motor control unit that controls the electric motor. See column 4, lines 19, 44-46 and columns 5-6. Thus, it would have been obvious to one skilled in the art at the time of the invention to be motivated to modify the method and apparatus for smoothing the output of the transmission of Kuras et al, which uses a hydraulic motor by incorporating the electric motor as used in the transmission testing of Nawa et al because such modification would

provide a system that is applicable to a wider range engine capacities, while providing a more reliable and efficient system.

Response to Amendments & Arguments

3. The amendments along with the arguments filed therewith on September 26, 2005 have been entered and carefully considered by the examiner.

Applicant has amended the claims to recite an “electric” motor.

Applicant then argued that “Kuras et al discloses a hydrostatic transmission and not a hybrid electric powertrain or transmission.” According to Applicant, the motor in the Kuras et al patent is a “hydraulic motor”, but not an “electric” motor.

With respect to the rejection, Applicant merely stated that “it is well settled with respect [to] obviousness rejections under 35 USC 103(a) that the initial burden is on the Patent Office to establish a prima facie case of obviousness.” Applicant then concluded, “[t]he present Office Action has failed to meet this threshold burden.”

First, it is noted that the Office Action clearly established a prima facie case of obviousness as set forth in the rejection of the claims in the previous communication. Obviousness requires that one reference be modified or combined with one or more references.

Second, Applicant failed to demonstrate how the applied obviousness rejection does not meet the claimed invention. Applicant failed to submit any argument discussing or explaining how the references applied against the claims fail to meet the claimed limitations.

Applicant may have a different motivation to modify the reference. The examiner, however, recognizes that “obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art”. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). That fact was established in the previous office action.

Regarding the added feature that the motor is an “electric” motor, the examiner submits that this limitation is not novel in the art. In fact, Nawa [5,060,176] discloses an electric motor powered testing apparatus for automotive power transmission using of an electric motor instead of a hydraulic motor. As described in the abstract and in column 1, Nawa discloses a testing apparatus for a power transmission of an automotive vehicle that determines transmission speed and transmission speed sensor diagnostics. According to Nawa, there is provided a power source unit employing a motor, such as electric motor, hydraulic motor and so forth. According to Nawa et al, the transmission testing apparatus employs an electric motor as a driving power source providing equivalent power characteristics for permitting testing of transition characteristics of the transmission. Also according to Nawa, there is provided a sensor for monitoring revolution speed at the input of the transmission, such as a revolution speed sensor. The revolution speed sensor monitors revolution speed at the input of the transmission to produce a sensor signal representative of the revolution speed at the input side of the transmission. See column 4,

Art Unit: 3661

lines 23-25. Nawa also monitors a speed of the output shaft of the transmission. The transmission testing apparatus, according to Nawa comprises an electric motor and a motor control unit that controls the electric motor. See column 4, lines 19, 44-46 and columns 5-6.

Mizushina et al [5,085,071], Tabata et al [5,841,201] and Hall, III [5,445,234] also relate to the claimed invention.

In light of the above, the claims remain rejected and this office action is made final

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,085,071	Mizushina et al	Feb. 1992
5,445,234	Hall, III	Aug. 1995
5,841,201	Tabata et al	Nov. 1998

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 3661

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques H. Louis-Jacques whose telephone number is 571-272-6962. The examiner can normally be reached on M-Th 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacques H Louis-Jacques
Primary Examiner
Art Unit 3661

/jlj

Jacques H. Louis-Jacques
JACQUES H. LOUIS-JACQUES
PRIMARY EXAMINER